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Idea 2791  
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13 October 1965

**MEMORANDUM FOR:** Chief, Programs Staff, OSA  
**SUBJECT:** Additional Fund Requirements - IDEALIST  
**REFERENCE:** Memorandum from D/MRO to D/SA; dated 16 September 1985; Subject: FY 1986 IDEALIST Program Approvals

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1. In reference to the D/NRO memo of 16 September relative to the deletion of the [redacted] product improvement item from the IDEALIST air frame budget, it is requested that this matter be reopened with D/NRO. As you know, we presently desire to accomplish two additional modifications to the U-2 fleet this fiscal year:

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### B. Wing Fuel Tank Revision

The U-2 aircraft has historically demonstrated poor lateral stability due to unequal fuel feeding from wing tanks and/or cross flow of fuel across center line while the aircraft is in turns or under yaw conditions. Additionally, the aircraft demonstrates CG excursions which approach the maximum safety limits both fore and aft during normal missions. The tank arrangement has been the recipient of at least partial blame in several U-2 accidents which have resulted in the loss of aircraft involved.

The most recent was the accident of [redacted] which occurred in April of this year. It is recommended that the fuel tanking of the aircraft be revised to provide an inboard main tank and outboard auxiliary tank in each wing versus the present fore and aft main and auxiliary arrangement. This modification will be undertaken at the factory and would provide:

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- (1) Improved CG travel
  - (2) Simplification of fuel feed plumbing

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**NRO review(s) completed.**

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- (3) Additional wing stiffness during the latter portions of flight
- (4) Elimination of the cross-flow problem
- (5) More reliable fuel feed due to an increase in wing tank pressurization

Estimated cost:

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b. Improved Inlet Duct Assembly

Recent testing conducted with a J75-13 engine has revealed marginal inlet recovery at the six and twelve o'clock positions of the engine face. Lockheed in examining the problem determined that a significantly improved inlet recovery capability could be achieved through the re-design of the exterior ducts. This improved inlet design should improve over-all thrust by about five per cent at a base altitude of plus 20. It is recommended that all U-2 aircraft have this modification accomplished prior to the installation of the J75-13B engine. It should be noted at this point that the new inlet ducting is compatible with both -13 and -13B engines, and results in approximately five per cent additional thrust with either. Estimated cost of modifications when combined with re-tanking:

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2. In cognizance of the foregoing, it is requested that the IDEALIST Budget be augmented by  to permit attainment of these significant operational improvements during the current fiscal year.

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SIGNED

Chief, Materiel Division  
OSA-DD/S&T

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**CONCUR:**

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(Signed)

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Deputy for Field Activities, OSA

*BS*

Chief, Idealist Division, OSA

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